PHYSA AMPULLACEA GOULD, PHYSA NUTTALLII LEA AND PHYSA COLUMBIANA HEMPHILL

BY JUNIUS HENDERSON

Dr. Clench (The Nautilus, Vol. 49, p. 31) says that the exact locality of *P. ampullacea* "is not known other than that of Oregon," which at the time of the discovery of the species included a great deal of territory not within the present boundaries of the state. The species was first named *P. bullata* Gould. That name being preoccupied, it was changed by Gould himself to *P. ampullacea.* The types were credited to Dr. J. G. Cooper. Two statements by Cooper himself, overlooked by everyone up to the present time, definitely fix the type locality in the Okanogan drainage, at Lat. 49° N., and almost beyond question at Lake Osoyoos. Binney added to the reprint of the description: "Found also in Lake Oyosa, Washington Territory, by Dr. Cooper, one of whose specimens is figured above (Fig. 133)." This is the figure that Clench correctly mentions as of the real *ampullacea,* Figs. 134, 135 being clearly something else, which Clench described as new, *P. gouldi* Clench. In using the word "also" Binney clearly thought that Lake Oyosa, the locality from which his figured Cooper specimen came, was not the original locality, which is incorrect. In his "Report upon the Mollusca collected on the Survey," Pacific R. R. Survey, XII–2, p. 378, Cooper gives Lake Oyosa as the only locality of *P. bullata* Gould (*P. ampullacea* Gould), and on the same page, under *Planorbis corpulentus,* he says, "Lake Oyosa, Okanagan River." I have found no such lake name on any map or elsewhere, but Lake Osoyoos is in the Okanagan drainage, and the 49th parallel of latitude, mentioned later by Cooper, crosses this lake. Cooper (Proc. Calif. Acad. Sci., IV, 98, 173, 1869–1871) noticed the discrepancy in Binney's figures in reporting *ampullacea* from California, saying: "They [the California specimens] are of the large form figured by Binney in L. and F. W. Shells, p. 79, Fig. 185 [133], and are interesting as showing a permanency of form so far south of latitude 49°, where I discovered them in 1853. Binney's figures [referring to Figs. 134, 135] may be of a Klamath Lake specimen, and differ from my types (f. 133), more resembling var. *propinqua* Tryon." These statements of Cooper definitely fix the type locality of *ampullacea* at the Okanagan drainage on the 49th parallel, and at Lake Osoyoos, unless there is a Lake Oyosa in that region.

As to *Physa nuttallii* Lea, Dr. Clench says: "If Lea's figures truly represent the species, it would be valid, and Hemphill's *P. ampullacea columbiana* would be a synonym, as the description of the latter species agrees in all essential details with *P. nuttallii.*" Just what are "essential details?" Hemphill's description of *columbiana,* based upon 200 specimens from Astoria, Oregon, says "shell globose or moderately elongated, shining, *solid,* of a *dark horn or chestnut color.*" Lea's description of *nuttallii,* based upon two specimens from Lewis River, obtained by Thomas Nuttall, says "shell inflated, *rather thin, semi-transparent,* somewhat bright, *whitish.*" These descriptions do not suggest the same species to me, and the locality for *nuttallii* is very much in doubt. Is the Lewis River the one in southwestern Washington, or the Snake River, which was called the Lewis by many early writers and repeatedly by Nuttall in the account of his travels? (See The Nautilus, XLVII, 87, 1934). As to shape, it is difficult or impossible to accurately describe the outlines of a *Physa* without figures. Lea figured his species, Hemphill did not. However, there are specimens of *columbiana,* undoubtedly from the type lot, in the Hemphill collection at the University of Colorado Museum (four of this lot figured on Plate 7, fig. 3); probably also in the Hemphill collection at the California Academy of Sciences, and a large lot in the Hemphill collection at Stanford University, probably most of the original 200. A careful examination of this material, in comparison with Lea's description and figures of *nuttallii,* convinced me that the two have nothing in common, and that *columbiana* certainly has nothing to do with *ampullacea,* as Hemphill believed. His ideas of relationship of species were often peculiar. In addition to the differences between Lea's and Hemphill's species as indicated by the descriptions, Lea's figures indicate a species very much less globose than Hemphill's specimens of *columbiana.* Most of the latter are of a rich chestnut color, the surface very finely rippled with minute, rather regular, somewhat rounded striae, instead of fine, sharp growth lines. With a large series of *Physas* from many western localities at hand, I spent much time trying to decide just what *nuttallii* is, from the figures and description, and concluded that it would be better not to apply that name to any specimens unless the types are available for comparison, or specimens agreeing with the types from some western Lewis River.

A NEW DEEP-WATER LUCINA FROM OFF MARYLAND

BY R. A. McLEAN

Lucina (Lucinoma) atlantis, new species. Pl. 5, figs. 1–2.

Description.—Shell of moderate size, elongate. Color of shell chalky white, covered with a conspicuous, greenish-yellow periostracum. Sculpture consists of small, sharp, concentric ridges, closely set on the umbos, more and more widely spaced toward the lower margins. Fine, indistinct, concentric lines are found between these ridges. Margin of shell entire, sinuate both anteriorly and posteriorly. Lunule clearly marked, long and lanceolate. Area plainly indicated. Ligament relatively conspicuous. Umbos white, slightly anterior, prominent and with the beaks curved forward. Interior white, slightly lustrous, with numerous small radiating striae most clearly defined near the margin; scars clearly defined. Two cardinal teeth in each valve, the anterior left and the posterior right are large and bifid, the remaining two are smaller. Anterior laterals are present but are nearly obsolete.

Length 69, height 48, width 26 mm.

Holotype.—M. C. Z. no. 73345, North Atlantic, 38° 10′ N., 73° 51′ W. (off Maryland).

Remarks.—Our specimen was obtained alive by Messrs. Stetson and Schevill in the course of geological studies from the ketch "Atlantis" of the Wood's Hole Oceanographic Institution. It was taken in a haul from 300 up to 118 fathoms on Aug. 5, 1935.

It is very close to *L. blakeana* Bush but differs in outline and proportions. The ratio of length to height to width for our species is 1.0 : .69 : .37 as against 1.0 : .88 : .43 for *L. blakeana,* thus our species is longer and more compressed for its length and is also more sinuate in outline.